

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. **(Currently amended)** A phosphorus-containing polymer, comprising the reaction product of an unsaturated phosphonic acid with a chain-transfer agent, the polymer having improved biodegradability as compared to the same polymer when made in the absence of the chain-transfer agent in which the chain-transfer agent is benzene, toluene, ethylbenzene, chlorobenzene, methylene chloride, ethylene chloride, chloroform or carbon tetrachloride.
2. **(Cancelled)**
3. **(original)** A polymer according to Claim 1, in which the chain-transfer agent is benzene, toluene, ethylbenzene or chlorobenzene.

4. **(original)** A polymer according to Claim 1, in which the chain-transfer agent is methylene chloride, ethylene chloride, chloroform or carbon tetrachloride.

5. **(Cancelled)**

6. **(original)** A phosphorus-containing polymer comprising the reaction product of a chain-transfer agent having at least one P-H bond with an unsaturated carboxylic, phosphonic or sulphonic acid, the polymer having a biodegradability of at least 20% per 28 days (as determined by OECD 306).

7. **(original)** A polymer according to Claim 6, having phosphorus-containing end-caps and comprising the reaction product of a chain-transfer agent having at least one P-H bond with an unsaturated carboxylic, phosphonic or sulphonic acid, said polymer having a biodegradability of at least 20% per 28 days (as determined by OECD 306).

8. **(Previously presented)** A polymer according to Claim 6, in which the chain-transfer agent having at least one P-H bond is hypophosphorous acid or a water-soluble salt of said acid.

9. **(original)** A polymer according to Claim 8, in which the chain-transfer agent is an alkali metal salt or an ammonium salt of hypophosphorous acid.

10. **(Previously amended)** A polymer according to Claim 6, in which the unsaturated carboxylic acid is acrylic acid or a water-soluble salt of said acid.

11. **(Previously presented)** A polymer according to Claim 6, in which the unsaturated carboxylic acid is methacrylic acid, maleic acid, fumaric acid, itaconic acid, aconitic acid, citraconic acid, mesaconic acid, crotonic acid, isocrotonic acid, angelic acid, tiglic acid or a water-soluble salt of any of said acids.

12. **(Previously presented)** A polymer according to Claim 1, in which the unsaturated phosphonic acid is vinylphosphonic acid (VPA), vinylidene-1,1-diphosphonic acid (VDPA) or a water-soluble salt of either of said acids.

13. **(Previously presented)** A polymer according to Claim 6, in which the unsaturated sulphonic acid is vinylsulphonic acid (VSA) or a water-soluble salt of said acid.

14. **(Currently amended)** ~~A polymer according to Claim 1, A~~
phosphorus-containing polymer, comprising the reaction product of
an unsaturated phosphonic acid with a chain-transfer agent, the
polymer having improved biodegradability as compared to the same
polymer when made in the absence of the chain-transfer agent, the
polymer comprising a telomer which is the reaction product of an adduct of vinylphosphonic acid and hypophosphorous acid (hereinafter referred to as a PPE-endcapper) with acrylic acid.

15. **(original)** A polymer according to Claim 14, in which the ratio of the PPE-endcapper to acrylic acid is in the range 1:5 to 1:20 molar.

16. **(Previously presented)** A polymer according to Claim 15 in which the ratio of the PPE-endcapper to acrylic acid is about 1:10 molar.

17. **(Currently amended)** ~~A polymer according to Claim 1,~~ A phosphorus-containing polymer, comprising the reaction product of an unsaturated phosphonic acid with a chain-transfer agent, the polymer having improved biodegradability as compared to the same polymer when made in the absence of the chain-transfer agent, in which at least 20% by weight of the polymer has a weight average molecular weight of 1000 or lower.

18. **(Original)** A polymer according to Claim 17, in which at least 35% by weight of the polymer has a weight average molecular weight of 1000 or lower.

19. **(Currently amended)** A method of making a polymer which is a phosphorus-containing polymer comprising the reaction product of an unsaturated phosphonic acid with a chain-transfer agent, the polymer having improved biodegradability as compared to the same polymer when made in the absence of the chain-transfer agent, the method comprising the step of ~~according to Claim 1, in which the chain-transfer agent and the unsaturated acid are being reacted together in the presence of a free-radical initiator, the free-radical initiator being alkali metal persulphate or 4,4'-azo-bis-cyanovaleric acid.~~

20. **(original)** A method according to Claim 19, in which the free-radical initiator is an alkali metal persulphate.

21. **(currently amended)** A method according to Claim 19 ~~[[20]]~~, in which the free-radical initiator is sodium persulphate.

22. **(Cancelled)**

23. **(original)** A method according to Claim 22, in which the free-radical initiator is 4,4'-azo-bis-cyanovaleric acid.

24-29. **(Cancelled)**

30. **(Previously presented)** A polymer according to Claim 6 in which the unsaturated phosphonic acid is vinylphosphonic acid (VPA) vinylidene-1,1-diphosphonic acid (VDPA) or a water-soluble salt of either of said acids.

31. **(Previously presented)** A polymer according to claim 6, comprising a telomer which is the reaction product of a PPE-endcapper with acrylic acid, wherein said PPE-endcapper is a reaction product of an adduct of vinylphosphonic acid and hypophosphorous acid.

32. **(Currently amended)** A method of making a polymer, which is a phosphorus-containing polymer comprising the reaction product of a chain-transfer agent having at least one P-H bond with an unsaturated carboxylic, phosphonic or sulphonic acid, the polymer

having a biodegradability of at least 20% per 28 days (as determined by OECD 306)~~according to Claim 6~~, in which method the chain-transfer agent and the unsaturated acid are reacted together in the presence of a free-radical initiator.

33. **(New)** A method of making a polymer, which is a phosphorus-containing polymer, comprising the reaction product of an unsaturated phosphonic acid with a chain-transfer agent, the polymer having improved biodegradability as compared to the same polymer when made in the absence of the chain-transfer agent, in which the chain-transfer agent is benzene, toluene, ethylbenzene, chlorobenzene, methylene chloride, ethylene chloride, chloroform or carbon tetrachloride, in which method the chain-transfer agent and the unsaturated acid are reacted together in the presence of a free-radical initiator.

34. **(New)** A method of making a polymer, which is a phosphorus-containing polymer, comprising the reaction product of an unsaturated phosphonic acid with a chain-transfer agent, the polymer having improved biodegradability as compared to the same

polymer when made in the absence of the chain-transfer agent, the polymer comprising a telomer which is the reaction product of an adduct of vinylphosphonic acid and hypophosphorous acid with acrylic acid, in which method the chain-transfer agent and the unsaturated acid are reacted together in the presence of a free-radical initiator.

35. **(New)** A method of making a polymer, which is a phosphorus-containing polymer comprising the reaction product of an unsaturated phosphonic acid with a chain-transfer agent, the polymer having improved biodegradability as compared to the same polymer when made in the absence of the chain-transfer agent, in which at least 20% by weight of the polymer has a weight average molecular weight of 1000 or lower, in which method the chain-transfer agent and the unsaturated acid are reacted together in the presence of a free-radical initiator.